REMARKS

I.   Introduction

Applicants have reviewed the detailed Office Action mailed 4/18/02 (paper no. 15). Applicants have amended claims 1, 13, 15 and 16 and have cancelled claim 14. Claims 20 and 21 have been added; however, no new matter has been added. Thus, claims 1, 10, 11, 13 and 15-21 are pending. Applicants request reconsideration of the pending claims in view of the above amendments and the following remarks.

II.   Objection to the Claims

Claim 14 was objected to under 37 CFR 1.75(c) as being in improper dependent form. Claim 14 has been cancelled rendering the objection moot. Claim 14 has been rewritten in proper dependent form as claim 20. Withdrawal of the objection is respectfully requested.

III.   Rejection under 35 U.S.C. § 102(b)

The Examiner rejected claims 1, 10-14 and 17-19 under 35 U.S.C. § 102(b) as being anticipated by DE-19501760 to Pueschel et al. ("Pueschel"), which corresponds to U.S. Patent No. 5,727852 to Pueschel et al. for column, line and figure numbers. For at least the following reasons, this rejection is respectfully traversed.

Regarding the Examiner's assertion that claim 1 is anticipated by Pueschel, firstly, nowhere does Pueschel teach or suggest diminishing the amount of excess elevation by functionally correlating the wheel brake pressure with the monitored master cylinder pressure throughout the duration of the third mode of operation, as recited by the Applicants in amended claim 1. Rather, Pueschel merely teaches diminishing the excess elevation as a function of time once the master cylinder pressure PHZ falls below a threshold value SB. *See Pueschel column 9, lines 36-40 and Fig. 8.*

To further elaborate, unlike the Applicants' claimed invention, Pueschel teaches controlling the wheel brake pressure as a function of the monitored master cylinder pressure at the start of the third mode of operation and then reducing the wheel brake pressure as a function of time throughout the duration of the third mode of operation (i.e., from the point in time T3 until lines PRZ and PHZ unite). While the examiner correctly notes that Pueschel

monitors the master cylinder pressure during the third mode of operation, this monitoring is solely to determine if the master cylinder pressure has again exceeded the specified threshold, requiring reentry into the second mode of operation. *See Pueschel column 9, lines 13-14.*

Additionally, upon review of Fig. 8, Pueschel teaches away from the Applicants' claimed invention. To elaborate, during the third mode of operation in Pueschel, the master cylinder pressure PHZ decreases from the point in time T3 until it slightly increases prior to the end of the third mode of operation or the point where line PRZ and line PHZ unite. Because the wheel brake pressure in Pueschel is diminished according to a time dependent function, rather than as a functional correlation with the master cylinder pressure, the wheel brake pressure decreases even though the master cylinder pressure increases. Applicants determined that a diminution of wheel brake pressure according to a simple time dependent function yields the disadvantage that the behavior of the brake system goes beyond the driver's understanding. *See Specification, page 5, lines 29-32.* In other words, during the duration of the third mode of operation in Pueschel, the brake effect fades despite the driver keeping the pedal force constant or slightly increasing the pedal force, as illustrated by the increase in master cylinder pressure PHZ after time T3.

Regarding claim 13, the Examiner asserted that it is inherent in Pueschel that the ratio of the wheel brake pressure and master cylinder pressure is equal to some time dependent constant of proportionality or momentary value. However, in the context of controlling the wheel brake pressure as a functional correlation with the master cylinder pressure throughout the duration of the third mode of operation, Applicants respectfully disagree. As evident in Fig. 8 of Pueschel, a momentary value of the wheel brake pressure PRZ is not determined by multiplying a momentary value of a time-dependent excess elevation function with the momentary value of the tandem master cylinder pressure PHZ during the portion of the third mode of operation where the master cylinder pressure PHZ increases.

Regarding claim 15, the Examiner asserted that Pueschel teaches the limitation of declining the excess elevation function in time intervals in which the master cylinder pressure is declining. However, because claim 15 depends from claim 13, the subject limitation occurs throughout the third mode of operation, as recited in claims 13, not the second mode of operation as shown in Pueschel and highlighted by the Examiner.

For at least these reasons, claims 1, 13, 15 and the claims that depend therefrom are

allowable and Applicants respectfully request that the §102(b) rejection be withdrawn.

VII.   Rejection under 35 U.S.C. § 103(a)

The Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Pueschel in view of U.S. Patent No. 4,798,422 to Becker. For at least the following reasons, this rejection is respectfully traversed.

"To establish a prima facia case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Regarding claim 16, the Examiner has failed to establish a prima facie case of obviousness under 35 USC §103(a) in that Pueschel, either alone or in combination with Becker, fails to teach or suggest all of the claim limitations recited in claim 16. Specifically, nowhere does Pueschel, either alone of in combination with Becker, teach or suggest a method of operating a brake assistant system that includes the steps of: (1) monitoring the master cylinder pressure in the third mode of operation; (2) determining when the wheel brake pressure is excessively elevated compared to the monitored master cylinder pressure, and (3) during the diminishing step, keeping the excess elevation function constant in time intervals in which the master cylinder pressure is increasing, as claimed by the Applicant.

First, Pueschel does not teach or suggest an excess elevation function. Second, as correctly indicated by the Examiner, Pueschel does not disclose or show an excess elevation function that is kept constant in the third mode of operation in the intervals in which the master cylinder pressure is increasing. Third, Becker fails to make up for the deficiencies of Pueschel. The paragraph in Becker cited by the Examiner, namely, col. 5, lines 18-26 merely teaches a brake system that decreases the wheel brake pressure to that required by the master cylinder when the pressure difference between the wheel brake pressure and the master cylinder pressure exceeds a threshold value. Nowhere does Becker teach or suggest keeping

an excess elevation function constant in time intervals in which the master cylinder pressure is increasing.

Accordingly, a prima facie case of obviousness has not been established. Applicants respectfully request that the §103(a) rejection be withdrawn.
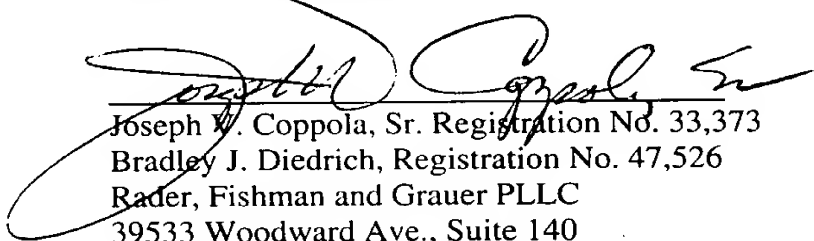

VIII. Conclusion

For at least the above reasons, Applicants respectfully submit that the present invention, as claimed, is patentable over the prior art. If the Examiner has any issues that he believes can be expedited by a telephone conference, he is encouraged to telephone the undersigned representative at his earliest convenience.

It is believed that any additional fees due with respect to this paper have already been identified. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 18-0013 in the name of Rader, Fishman and Grauer PLLC.

Respectfully submitted,

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MARKED UP VERSION OF ALL AMENDED CLAIMS

1.   (Twice Amended) A method of operating a brake assistant system which comprises a first mode of operation in which the brake assist system is not actuated, a second mode of operation in which after recognition of an emergency brake situation a pressure build-up of wheel brakes is generated, and a third mode of operation which is provided for the transition from the second into the first mode of operation, comprising the steps of:

monitoring the master cylinder pressure in the third mode of operation,

determining when the wheel brake pressure is excessively elevated compared to the monitored master cylinder pressure, and

diminishing the amount of excess elevation by [controlling] functionally correlating the wheel brake pressure [as a function of] with the monitored master cylinder pressure throughout the duration of the third mode of operation.

13.   (Twice Amended) The method according to claim 1, wherein the diminishing step [of controlling the wheel brake pressure] includes the sub step of determining a momentary value of the wheel brake pressure by multiplying a momentary value of a time-dependent excess elevation function with the momentary value of the master cylinder pressure throughout the duration of the third mode of operation.

15.   (Twice Amended) [A] The method according to claim 13, [further including the step of] wherein the diminishing step is further defined by declining the excess elevation function in time intervals in which the [tandem] master cylinder pressure is declining.

16.   (Twice Amended) The method according to claim 13, [further including the step of] wherein the diminishing step is further defined by keeping the excess elevation function constant in time intervals in which the master cylinder pressure is increasing.